

**REMARKS**

Claims 51-95 are pending. Claims 58 and 74 have been amended. New claims 96-102 have been added. Support for the amendment and new claims can be found throughout the specification and the claims as filed. In particular, support for new claims 96-102 can be found, for example, in original claims 16-26 and on page 7, line 13, to page 8, line 11; page 10, lines 7-31; page 11, lines 25-33; page 24, lines 16-20; page 27, line 27, to page 29, line 32; page 44, line 3, to page 51, line 13; and page 54, line 1, to page 55, line 2. Accordingly, these amendments and new claims do not raise an issue of new matter and entry thereof is respectfully requested.

**Rejection Under 35 U.S.C. § 112, First Paragraph**

The rejection of claims 51-57 under 35 U.S.C. § 112, first paragraph, as allegedly lacking written description is respectfully traversed. Applicants respectfully maintain that the specification provides sufficient description and guidance for the claimed compositions.

Applicants respectfully submit that the specification provides a sufficient number of species representative of the claimed genus. In particular, the specification teaches a variety of polymerase mutants having one or more amino acid substitutions in the O-helix of a parent thermostable polymerase (see Examples V and VI, pages 51-55). The claimed compositions contain polymerase mutants having polymerase activity and higher fidelity than the parent thermostable polymerase and, therefore, the claimed genus encompasses only those mutants having the recited characteristics. Thus, the genus is not the number of all possible O-helix mutants but those O-helix mutants having

polymerase activity and higher fidelity than the parent thermostable polymerase. Furthermore, the specification teaches how to generate a large number of polymerase mutants and screen for polymerase mutants having polymerase activity and higher fidelity than the parent thermostable polymerase (Example I, pages 33-41). Accordingly, Applicants respectfully submit that the specification provides sufficient description and guidance for the claimed compositions and respectfully request that this rejection be withdrawn.

**Rejection Under 35 U.S.C. § 102(a)**

The rejection of claims 51-58 and 67 under 35 U.S.C. § 102(a) as allegedly anticipated by Suzuki et al., Proc. Natl. Acad. Sci. USA 93:9670-9675 (1996), is respectfully traversed. Applicants respectfully submit that the claims are novel over Suzuki et al. Submitted herewith is a Rule 132 Declaration signed by one of the inventors, Dr. Hood, attesting that the co-author of the Suzuki et al. publication who was not named as an inventor, Dale Baskin, worked under his direction and supervision. Accordingly, Suzuki et al. is not available as prior art and, therefore, reconsideration and withdrawal of this rejection is respectfully requested.

**Double Patenting**

Claims 51-58 and 67 stand rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 16-29 and 51-84 of U.S. Patent No. 6,395,524. Applicants respectfully request that this rejection be deferred until there is an indication of allowable subject matter. At that time, if the double patenting rejection is maintained, a terminal disclaimer is proposed to be filed.

Inventors: Loeb et al.  
Serial No.: 09/972,834  
Filed: October 4, 2001  
Page 11

CONCLUSION

In light of the amendments and remarks herein, Applicants submit that the claims are now in condition for allowance and respectfully request a notice to this effect. The Examiner is invited to contact the undersigned agent if there are any questions.

Respectfully submitted,

Date: December 9, 2003



Deborah L. Cadena  
Registration No. 44,048  
Telephone: (858) 535-9001  
Facsimile: (858) 535-8949

McDERMOTT, WILL & EMERY  
4370 La Jolla Village Drive  
Suite 700  
San Diego, California 92122